

REMARKS

Applicants thank the Examiner for the thorough consideration given the present application. Claims 1-14 are currently being prosecuted in the present application. The Examiner is respectfully requested to reconsider his rejections in view of the amendments and remarks as set forth below.

PRIORITY

It is gratefully acknowledged that the Examiner has recognized the Applicant's claim for foreign priority and the receipt of the certified copy. In view of the fact that Applicant's claim for foreign priority has been perfected, no additional action is required from Applicants at this time.

DRAWINGS

It is gratefully acknowledged that the Examiner has accepted the formal drawings filed on June 29, 2001 for examination purposes. It is respectfully submitted that the formal drawings comply with the requirements of the USPTO. If the Official Draftsperson has any objections to the formal drawings, he is respectfully requested to contact the undersigned as soon as possible so that appropriate action may be taken.

ACKNOWLEDGEMENT OF INFORMATION DISCLOSURE STATEMENT

The Examiner has acknowledged the Information Disclosure Statement filed on June 29, 2001. An initialed copy of the PTO-1449 has been received from the Examiner. No further action is necessary at this time.

REJECTIONS UNDER 35 USC 102

Claims 1, 6 and 10 stand rejected under 35 USC 102 as being anticipated by Takayuki (JP62-272838). Claims 11-14 stand rejected under 35 USC 102 as being anticipated by Shimoyama et al (U.S. Patent No. 5,552,652). These rejections are respectfully traversed. Applicants submit that these references do not teach every feature of the claimed invention.

The Examiner states that Takayuki shows a star connected wound rotor for a motor including a shaft and armature core, a commutator, a star connector, and a plurality of coils forming an armature winding. The Examiner states that the star connector comprises a base of insulating material fitted to the shaft adjacent to the second end of the armature core and a terminal ring of conductive material fitted to the base and having a number of terminals connected to the coils.

Applicants submit that this reference does not teach all of the features suggested by the Examiner. Applicants are relying on the English language abstract and the figures for their understanding of the invention. If the Examiner has a full translation of the document, he is requested to provide a copy to Applicants. Otherwise, he is requested to point out the basis for the various parts of the star connector since they are not discussed in the Abstract nor shown in the drawings. Specifically, the Abstract refers to the connector 6 as being set on an armature shaft 8 and insulated. Terminal 7A-7C of connector 6 are used for a connection. However, no further description of the terminals or the connector is provided. Figure 2 does show many parts of the motor including the shaft, armature core and commutator, but the specifics of the star connector are not shown.

Applicants disagree with the Examiner that the reference shows a base of insulating material fitted to the shaft. At best, the Abstract merely indicates that the connector is insulated from the armature shaft. The Examiner also states that the reference shows a terminal ring of conductive material. This is not seen in the abstract or in the drawings. While terminals are provided, there is

no discussion of their arrangement. Accordingly, Applicants submit that without a translation, this reference does not show the features of the connector and that accordingly claims 1 and 6 define thereover.

Claims 1 and 6 now describe the connector as including a base insulating material and a terminal ring of conductive material where the ring is spring-fitted to the base. This is based on the description at page 3, line 23 of the specification which states that the terminal ring is sprung onto the base. Accordingly, the claims now require that the star connector not only have the base and terminal ring, but that the ring is spring-fitted to the base. This is clearly not seen in the Takayuki reference and, accordingly, Applicants submit that claims 1 and 6 define thereover. Concerning claim 10, the Examiner refers to base 9 to function as a spacer. Applicants submit that there is no discussion in the English language abstract or drawings which identify this as a spacer and that the claims are allowable over the reference.

The Examiner cited the Shimoyama et al. reference to show a base 7 and a conductor ring 12. The Examiner states that the base has a wall along 4 extending radially and a skirt extending axially from the outer edge of the wall, with a number of openings in the skirt and buttresses formed on the wall. Applicants disagree with this understanding of this reference. Base 7 does have a central opening for receiving a shaft and an axial portion which then turns upwardly along its periphery. A conductive carbon layer is formed between the center portion and the peripheral upstanding wall which is cut into segments. A plate member is placed on the base below the carbon segments.

Applicants submit that Examiner has misapplied this reference as well. While there is a wall of the base which extends radially from the center boss, and while there is a peripheral wall which extends axially from the periphery of the radial wall, Applicants submit that there are no openings in the skirt as suggested by the Examiner and there are no buttresses formed on the wall. While it is

true that terminals 9 extend outwardly from the base, the openings are in line with the radial wall and not with the skirt portion. As seen in Figure 1, the top of terminals 9 are at the same level as the top of the radial wall section of the base. Further, Applicants do not understand the Examiner's allegation that a number of buttresses (near 7) are formed on the wall and base remote from the skirt. Applicants see no buttresses at all anywhere in this device. If the Examiner persists in this rejection, he is requested to either identify the buttresses by number or mark a copy of one of the figures of this reference to indicate what he considers the buttresses to be.

The Examiner further states that the conductor ring has a flat ring portion located against the wall of the base and supported by the skirt. Applicants submit that plate 12 is not supported by the skirt, but extends through the periphery of the wall portion. Further, the plate 12 is not located against the wall at the base, but instead is imbedded there as shown in Figure 1. For these reasons, Applicants submit that the elements of claim 11 are not found in the reference and accordingly this claim is allowable. Concerning the dependent claims, Applicants do not recognize any detents in this reference as all. It is also not clear what the Examiner considers the detents to be in the reference. Claims 12-14 are also allowable based on their dependency from claim 11.

REJECTION UNDER 35 USC 103

Claims 2, 4, 5, 8 and 9 stand rejected under 35 USC 103 as being obvious over Takayuki in view of Gute (U.S. Patent 3,244,917). Claims 3 and 7 stand rejected under 35 USC 103 as being obvious over Takayuki in view of Terada (U.S. Patent 5,272,405). These rejections are respectfully traversed.

First, Applicants submit that these claims are allowable based on the dependency from allowable claims 1 and 6. Considering the Gute reference, the Examiner states that the detent 86 is provided to key the terminal ring 82 to the base to prevent rotational movement. First, Applicants

submit that there is no disclosure of a star connector in this reference and that instead a commutator is provided. Secondly, Applicants submit that the slot 86 does not act as a detent and that there are no detents present in the reference. Instead, the reference provides commutator segments which are molded to the base. Accordingly, Applicants submit that these claims are further allowable.

The Examiner cited the Terada reference to show a base having a cylindrical portion for receiving a terminal ring 10, with the ring having a split 14. The Examiner also states that the ring has a free internal diameter less than the diameter of the cylindrical portion. First, Applicants point out that Terada does not show a star connector ring, but rather a commutator. Secondly, although the ring is initially split because it is formed from flat material, it is filled with solder to form a solid ring before connecting to the base. The base is then molded to the ring and the ring is cut into individual commutator segments. Since the base is molded to the ring, there is no evidence that the ring is smaller than the base before it is cut. This document teaches away from the invention since the present invention leaves the split in order for the ring to act a spring to hold it to the base. Accordingly, Applicants submit that claims 3 and 7 are additionally allowable.

CONCLUSION

In view of the above remarks, it is believed that the claims clearly distinguish over the patents relied on by the Examiner either alone or in combination. In view of this, reconsideration of the rejections and allowance of all the claims is respectfully requested.

In the event that any outstanding matters remain in this application, the Examiner is invited to contact Robert F. Gnuse (Reg. No. 27,295) at (703) 205-8000 in the Washington, D.C. area.

Attached hereto is a marked-up version of the changes made to the application by this Amendment.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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Attachment: Version with Markings to Show Changes Made